

## Box and whisker plots

Box and whisker plots are used to **show the distribution of data points across a selected measure**. These charts display ranges within variables measured. This includes the outliers, the median, the mode, and where the majority of the data points lie in the “box”.

These visuals are helpful to compare the distribution of many variables against each other.

Box and Whisker plot help to **show the distribution of values along the axis**.

In Tableau Box and Whisker plot,

**Box represents the middle data**, i.e., the values between the first quartile, second quartile (**median**), and third quartile.

Box and whisker plots portray the distribution of your data, outliers, and the **median**. The **box** within the chart displays **where around 50 percent of the data points fall**.

It summarizes a data set in five marks. The mark with the greatest value is called the **maximum**. It will likely fall far outside the box. The mark with the lowest value is called the **minimum**. It will likely fall outside the box on the opposite side as the maximum.

The box itself contains the lower quartile, the upper quartile, and the median in the center.

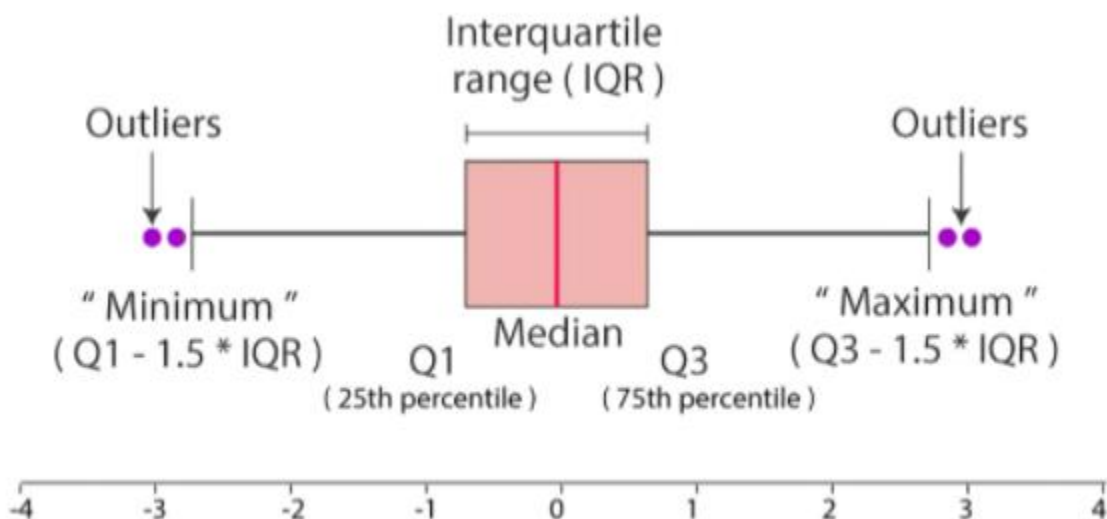
The **median** is the value separating the higher half from the lower half of a data sample, a population, or a probability distribution.

You can think of the median as "the middle" value in a set of numbers based on a **count** of your values rather than the middle based on the value.

The lower quartile is the **25th percentile**, while the upper quartile is the **75th percentile**. The median is the middle, but it helps give a better sense of what to expect from these measurements.

The whiskers (the lines extending from the box on both sides) typically extend to **1.5\*** the Interquartile Range (the box) to set a boundary beyond which would be considered outliers. Hence the name, box, and whisker plot.

The Whiskers, called lines, display all points between the lowest first quartile value and the highest upper quartile value.



**Different parts of boxplot**